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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,900	03/31/2004	Tsung-Kuan Allen Chou	P-6477-US	5011
49444	7590	11/16/2005		
PEARL COHEN ZEDEK LATZER, LLP 10 ROCKEFELLER PLAZA STREET SUITE 1001 NEW YORK, NY 10020			EXAMINER ROJAS, BERNARD	
			ART UNIT 2832	PAPER NUMBER

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/812,900

Applicant(s)

CHOU ET AL.

Examiner

Bernard Rojas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 2, 12 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-7, 11, 13-21 and 23-25 is/are rejected.
- 7) ☒ Claim(s) 8-10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 08222005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

Claims 2, 12 and 22 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 09/01/2005

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-7, 11 and 13-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Dickens et al. [US 6,657,525].

Claim 1, Dickens et al. discloses a device comprising: a contact switch [figures 2A-2C] comprising: a bottom electrode structure including a bottom actuation electrode [70, 71]; and a top electrode structure including a top actuation electrode [60, 61] and one or more stoppers [54, 55] able to maintain a predetermined gap between said top electrode and said bottom electrode when said switch is in a collapsed state [figure 2C].

Claim 3, Dickens et al. discloses the device of claim 1, wherein said bottom electrode structure comprises one or more electrically isolated islands [74, 75], wherein

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at least one of said stoppers is able to contact at least one of said islands when said switch is in said collapsed state [figure 2C].

Claim 4, Dickens et al. discloses the device of claim 1 comprising a support beam [48] associated with said top electrode and having a generally low spring constant.

Claim 5, Dickens et al. discloses the device of claim 1, wherein said top electrode is generally rigid [due to rigid support piece 48].

Claim 6, Dickens et al. discloses the device of claim 1, wherein said switch comprises a first electrical contact [64] able to be electrically connected with a second electrical contact [42, 43] when said switch is in a closed state.

Claim 7, Dickens et al. discloses the device of claim 6, wherein said first electrical contact is positioned on a contact beam associated with said top electrode [figure 2A].

Claim 11, Dickens et al. discloses a system comprising: a switching arrangement including at least one contact switch comprising: a bottom electrode structure including a bottom actuation electrode [70, 71]; and a top electrode structure including a top actuation electrode [60, 61] and one or more stoppers [54, 55] able to maintain a predetermined gap between said top electrode and said bottom electrode when said switch is in a collapsed state; and a switch controller able to control operation of said at least one contact switch [Dickens et al. inherently requires a controller in order to

operate the Mem switch by providing the opening/closing signals to the actuation electrodes]

Claim 13, Dickens et al. discloses the system of claim 11, wherein said bottom electrode structure comprises one or more electrically isolated islands [74, 75], wherein at least one of said stoppers is able to contact at least one of said islands when said switch is in said collapsed state [figure 2C].

Claim 14, Dickens et al. discloses the system of claim 11, wherein said switch comprises a support beam [48] associated with said top electrode and having a generally low spring constant.

Claim 15, Dickens et al. discloses the system of claim 11, wherein said switch comprises a first electrical contact [64] able to be electrically connected with a second electrical contact when said switch is in a closed state.

Claim 16, Dickens et al. discloses the system of claim 15, wherein said first electrical contact is positioned on a contact beam associated with said top electrode [figure 2A].

Claim 17, Dickens et al. discloses a device comprising: a contact switch comprising top [54, 55, 60, 61, 64, 48] and bottom [70, 71, 74, 75] electrode structures, said switch is able to be switched to a collapsed closed state [figure 2C] wherein a first electrical contact [64] associated with said top structure is in contact with a second electrical contact [42,43] associated with said bottom structure, wherein said top

structure is in contact with said bottom structure, and wherein a predetermined gap is maintained between other portions of said top and bottom structures [figure 2C].

Claim 18, Dickens et al. discloses the device of claim 17, wherein said top electrode structure comprises a top actuation electrode [60, 61] and one or more stoppers [53, 54].

Claim 19, Dickens et al. discloses the device of claim 17, wherein said bottom electrode structure comprises a bottom actuation electrode [70, 71] and one or more electrically isolated islands [74, 75].

### ***Claim Rejections - 35 USC § 103***

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dickens et al. [US 6,657,525].

Claim 20, Dickens et al. discloses the claimed invention except for the claimed contact force between the first and second contacts. It would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust the contact force between the first and second electrical contacts since applicant has not disclosed that the claimed contact force solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with a smaller contact force.

Claims 21, 23, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wheeler et al. [US 2003/0025580], and further in view of Dickens et al. [US 6,657,525].

Claim 21, Wheeler et al. discloses a wireless device comprising a switching arrangement comprising first [1702] and second [1704] contact switches, said first switch able to connect said antenna with a transmitter, and said second switch able to connect said antenna with a receiver [figure 17].

Wheeler et al. fails to disclose claimed switch configuration.

Dickens et al. discloses an Rf Mem switch [abs] comprising: a bottom electrode structure including a bottom actuation electrode [70, 71]; and a top electrode structure including a top actuation electrode [60, 61] and one or more stoppers [54, 55] able to

maintain a predetermined gap between said top electrode and said bottom electrode when said collapsible switch is in a collapsed state [figure 3].

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the electrostatic Rf Mems switches of Dickens et al. to conserve current since it was known in the art that electrostatic Mem switch use less current for actuation when compared to magnetic Mem switch as the type disclosed by Wheeler et al.

Claim 23, Dickens et al. discloses the switching device of claim 21, wherein said bottom electrode structure comprises one or more electrically isolated islands [74, 75], wherein at least one of said stoppers is able to contact at least one of said islands when said collapsible switch is in said collapsed state [figure 2C].

Claim 24, Dickens et al. discloses the switching device of claim 21, wherein said collapsible switch comprises a support beam [48] associated with said top electrode and having a generally low spring constant.

Claim 25, Dickens et al. discloses the switching device of claim 21, wherein said collapsible switch comprises a first electrical contact [42] able to be electrically connected with a second electrical contact [43] when said switch is in a closed state [figure 2C].



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***Allowable Subject Matter***

Claims 8-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Rojas whose telephone number is (571) 272-1998. The examiner can normally be reached on M-F 8-4:00, every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Bernard Rojas*  
BR

*[Signature]*  
SPF-AN2832  
11/14/05